REMARKS

Applicants thank the Examiner for acknowledging that claims 7-9 are allowed. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim Rejections under 35 U.S.C. § 102

Claims 1, 2, 3, 5 and 10 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0107035 ("Tange et al."). Applicants traverse the rejection for the reasons set forth below.

Applicants rely on M.P.E.P. § 2131, entitled "Anticipation – Application of 35 U.S.C. § 102(a), (b) and (e)" which states, " a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Applicants respectfully submit that the cited references, alone or in combination, do not describe each and every element of the claims.

As originally presented, claim 1 (*i.e.*, the claim from which claims 2-6 depend) recites a steering control apparatus for an automotive vehicle. This steering control apparatus includes, among other possible things (italic emphasis added):

> a camera photographing a travel path in a traveling direction of a vehicle;
> a lateral displacement calculating circuit that calculates a lateral displacement of the vehicle with respect to the travel path according to an image of the travel path photographed by the camera;
> a differentiator that *calculates a differential value of the lateral displacement;*
> a vehicle speed sensor that detects a vehicle speed;
> a relative yaw rate calculating section that *calculates a relative yaw rate* with respect to the travel path of the vehicle *on the basis of* the lateral displacement, *the differential value of the lateral displacement*, and the vehicle speed;
> an actuator that provides an assistance force for the steering mechanism; and
> an actuator controlling section that drivingly controls the actuator in a direction toward which the relative yaw rate is cancelled on the basis of the relative yaw rate.

Similarly, as originally presented, claim 10 recites a steering control method for an automotive vehicle. This method includes, among other possible steps (italic emphasis added):

> photographing a travel path in a traveling direction of a vehicle using a camera;
> calculating a lateral displacement of the vehicle with respect to the travel path according to an image of the travel path photographed by the camera;
> *calculating a differential value of the lateral displacement;*
> detecting a vehicle speed;
> *calculating a relative yaw rate* with respect to the travel path of the vehicle *on the basis of* the lateral displacement, *the differential value of the lateral displacement,* and the vehicle speed;
> providing a steering assistance force for the steering mechanism using an actuator; and
> drivingly controlling the actuator in a direction toward which the relative yaw rate is cancelled on the basis of the relative yaw rate.

Accordingly, the claimed invention calculates a relative yaw rate which is derived from the lateral displacement, the differential value of the lateral displacement and the vehicle speed. Using an actuator, force is applied to a steering mechanism based on the calculated yaw rate. The yaw rate is a variation rate of the yaw angle of the vehicle. The variation rate of the yaw angle has a close relationship to the force developed on the vehicle due to yawing. Accordingly, the relative yaw rate is used as a parameter by the actuator in determining the amount of force applied to the steering mechanism. This results in extremely accurate steering control.

In contrast, Tange et al. and Matsumoto (standing alone or combined) fail to teach or suggest the steering control apparatus recited in claim 1 or the steering control method recited in claim 10. Tange et al. is directed to a system and method for preventing lane deviation in a vehicle using a braking/driving force control unit. In rejecting claims 1 and 10, the Examiner asserts that Tange et al. teaches: (a) a relative yaw rate calculating section that calculates a relative yaw rate with respect to the travel path of the vehicle on the basis of the lateral displacement, the differential value of the lateral displacement, and the vehicle speed (claim 1); and (b) calculating a relative yaw rate with respect to the travel path of the vehicle on the basis of the lateral displacement, the differential value of the lateral displacement, and

the vehicle speed (claim 10). Applicants respectfully disagree. The claimed relative yaw rate is derived from the lateral displacement, the differential value of the lateral displacement and the vehicle speed. In contrast, the method and system of Tange et al. simply calculates a yaw angle and yaw rate of a vehicle relative to a running lane. (*See* ¶ [0018].) Further, Tange et al. only discloses that an estimated lateral displacement XS is calculated. (*See* ¶ [0028].) However, Tange et al. does not disclose or suggest calculating the differential value of the lateral displacement as claimed in claims 1 and 10. Accordingly, Tange et al. fails to teach or suggest at least the above-italicized limitations of claims 1 and 10. Moreover, it is respectfully noted that Matsumoto fails to cure this deficiency of Tange et al.

Claim Rejections under 35 U.S.C. § 103

Claim 4 was rejected under 35 U.S.C. § 103 as being unpatentable over Tange et al. Claim 6 was rejected under 35 U.S.C. § 103 as being unpatentable over Tange et al. in view of U.S. Patent Publication No. 2004/0153228 ("Matsumoto et al.").

Claims 4 and 6 depend from claim 1 and are therefore allowable for all the reasons set forth above without regard to the further patentable limitations recited therein. Therefore, Applicants respectfully request reconsideration and that claims 4 and 6 be allowed.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to

charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 12/21/06

By [signature] Reg. No. 59,396

/Pavan K. Agarwal/
Pavan K. Agarwal
Attorney for Applicant
Registration No. 40,888

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 945-6162
Facsimile: (202) 672-5399